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DIGITALISATION OF SMALL BUSINESSES THROUGH E-COMMERCE: A STUDY OF ADOPTION AND CHALLENGES

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Abstract

E-commerce has become a significant element of the evolving business landscape, particularly for small traders aiming to broaden their market reach, enhance customer interaction, and implement digital payment systems. The proliferation of smartphones, internet accessibility, social media platforms, digital payments, and online marketplaces has unveiled new prospects for small enterprises. Nonetheless, the adoption of e-commerce varies widely due to disparities in digital literacy, financial capacity, technological awareness, cybersecurity issues, competition, logistics challenges, and access to digital infrastructure. In this context, the current study investigates e-commerce adoption among small traders and evaluates the opportunities and challenges inherent in digital business practices. This research emphasizes traders' socio-economic characteristics, business nature, digital literacy levels, and utilization of digital tools, e-commerce adoption rates, online selling channels, perceived benefits, encountered challenges, and subsequent business outcomes. Primary data were gathered from 50 small traders using a structured interview schedule and purposive sampling technique. The study employs a descriptive and analytical methodology, incorporating frequency analysis, percentage calculations, cross-tabulations, and Chi-square tests. The results reveal that while traders extensively use smartphones and digital payments, the adoption of online marketplaces and independent websites is relatively limited. Expanded customer reach, enhanced communication, and effective digital payments are identified as major opportunities; conversely, a lack of



digital skills, cybersecurity concerns, competition, and logistic issues emerge as significant challenges. The study recommends that improving digital literacy, increasing cybersecurity awareness, ensuring access to affordable finance, enhancing digital infrastructure, and providing institutional support are crucial for bolstering e-commerce adoption among small traders.

Keywords: E-Commerce, Small Traders, Digital Payments, Digital Literacy, Online Business, Small Business, Digital Transformation, Telangana.

Introduction

Small traders play a crucial role in the commercial and local economic framework of Telangana. They include retail shops, grocery businesses, garment sellers, food vendors, handicraft dealers, household product sellers, and other small commercial enterprises that provide employment, distribute goods and services, and establish connections between producers and consumers. Traditionally, these businesses have relied on physical markets, local clientele, personal relationships, and cash transactions. The rapid evolution of digital technology has transformed this traditional business landscape. The emergence of smartphones, internet services, digital payment applications, social media, and online marketplaces has opened up new avenues for small traders to engage with customers and promote their products. Consequently, e-commerce has become increasingly significant for small businesses seeking to extend their reach beyond local markets. E-commerce does not always require an independent website. Small traders can engage in digital commerce through platforms like WhatsApp, social media, digital payment apps, online marketplaces, and business-to-business platforms. For many, these user-friendly digital tools represent the initial stage of digital transformation.



Adopting e-commerce offers several advantages. Traders can extend their reach to customers beyond their immediate vicinity, market products cost-effectively, accept digital payments, communicate with their clientele, and gain insights into market trends. Digital records also help in managing sales and business transactions efficiently. However, e-commerce introduces new challenges as well. Many small traders may lack expertise in digital technologies and online marketing. Cybersecurity and fraud present significant concerns. Entering wider digital markets can intensify competition for local traders. Additionally, issues related to delivery, packaging, product returns, platform charges, and customer complaints may increase operational complexities. While the Indian business environment has seen significant growth in digital payments and online commerce, digital adoption among small traders is inconsistent. Factors like education level, age, business size, income, digital skills, and access to infrastructure affect how much traders can benefit from digital technologies. In this setting, the current study investigates e-commerce adoption among small traders, focusing primarily on their digital practices, opportunities, challenges, and perceived business outcomes.

Review of Literature

1. Sujatha and Karthikeyan (2021) explored the factors influencing e-commerce adoption among SMEs in India, creating a three-stage model that highlights technological, organizational, and strategic elements. This study is relevant to the current research as it delves into digital literacy, technology usage, and e-commerce adoption in small businesses.
2. Misra et al. (2022) focused on e-marketplace adoption among 150 small sellers from Tier-II and Tier-III cities in India. Their findings indicated that performance expectancy, effort expectancy, social influence, and perceived vulnerability play crucial roles in shaping sellers' behavioral intentions to embrace electronic marketplaces. This research is particularly pertinent to small traders in emerging urban areas.
3. Ahmad and Siraj (2023) examined the stages of e-commerce assimilation among 384 Indian SMEs using an adapted Technology–Organization–



Environment framework. They found that technological, organizational, environmental, and individual factors impact e-commerce adoption, with many SMEs yet to fully integrate these systems.

4. Goyal and Morgan (2023) analyzed e-commerce adoption across G20 countries, including India, focusing on indicators like internet access, digital literacy, financial inclusion, postal reliability, and internet security. The study underscores the importance of digital infrastructure and skills in broadening e-commerce adoption.
5. Kapoor and Goyal (2023) conducted a comprehensive survey of Indian MSMEs to assess how e-commerce platforms aid their growth. The research centered on aspects such as market access, sales, profitability, and e-commerce platform participation, providing insights into the opportunities e-commerce adoption offers small businesses.
6. Kumar and Sudhakar (2024) investigated research trends in e-commerce adoption and sustainability among SMEs using bibliometric analysis. Their study emphasized the increasing significance of digitalization, e-commerce, innovation, and entrepreneurship in SME development, serving as a recent reference for understanding emerging research trends.

Objectives of the Study

1. To study the business profile, digital literacy and level of e-commerce adoption among small traders.
2. To identify the digital tools used and the major benefits and opportunities of e-commerce.
3. To examine the challenges of e-commerce adoption and suggest measures to improve its use among small traders.

Hypotheses of the Study

1. H_{01} : There is no significant relationship between digital literacy and e-commerce adoption among small traders.
 H_{11} : There is a significant relationship between digital literacy and e-commerce adoption among small traders.
2. H_{02} : There is no significant relationship between business size and e-commerce adoption among small traders.



H₁₂: There is a significant relationship between business size and e-commerce adoption among small traders.

3. H₀₃: There is no significant relationship between the use of digital tools and e-commerce adoption among small traders.

H₁₃: There is a significant relationship between the use of digital tools and e-commerce adoption among small traders.

Research Methodology

The current study employed a descriptive and analytical research approach to investigate the adoption of e-commerce among small traders. Primary data were gathered from 60 small traders, chosen through purposive sampling, from selected markets in the Hanumakonda and Warangal districts of Telangana. The participants comprised retailers, grocery traders, garment sellers, food-product vendors, household-product dealers, and other small business operators. Data collection was conducted through a structured interview schedule that explored socio-economic characteristics, business profiles, digital literacy, digital payment usage, online selling practices, perceived benefits, challenges, and business outcomes. Additional information was sourced from government publications, reports, academic literature, and institutional sources. The data collected were analysed using frequency, percentage, cross-tabulation, and Chi-square tests.

Data Analysis and Interpretation

Table 1: Age-wise Distribution of Respondents:

Age Group	Frequency	Percentage
20–30 Years	9	15.0%
31–40 Years	22	36.7%
41–50 Years	17	28.3%
51–60 Years	8	13.3%
60 Years and above	4	6.7%
Total	60	100%



Source: Field Study

The table indicates that 36.7% of the respondents were in the 31–40-year age group, with another 28.3% in the 41–50-year range. Younger traders made up 15%, and those above 50 years accounted for 20%. Therefore, the sample primarily comprises middle-aged small traders.

Table 2: Gender-wise Distribution of Respondents

Gender	Frequency	Percentage
Male	40	66.7%
Female	20	33.3%
Total	60	100%

Source: Field data

The table shows that 66.7% of the respondents were male, while 33.3% were female. This participation by women highlights their engagement in small-scale trading and business ventures.

Table 3: Educational Status of Respondents:

Educational Level	Frequency	Percentage
No formal education	7	11.7%
Primary education	10	16.7%
Secondary education	14	23.3%
Higher education	29	48.3%
Total	60	100%

The table indicates that 48.3% of the respondents possessed higher education, while 23.3% had completed secondary education. Approximately 16.7% had a primary education, and 11.7% had no formal education at all. Consequently,



nearly half of the small traders having higher education could enhance their ability to understand and utilize digital technologies and e-commerce.

Table 4: Annual Turnover of Small Traders

Annual Turnover	Frequency	Percentage
Below ₹3 lakh	22	36.7%
₹3–5 lakh	18	30.0%
₹5–10 lakh	12	20.0%
Above ₹10 lakh	8	13.3%
Total	60	100%

Source: Field data

The table indicates that 36.7% of small traders have an annual turnover below ₹3 lakh, making them the largest group. Approximately 30.0% fall within the ₹3–5 lakh turnover bracket. Another 20.0% report an annual turnover of ₹5–10 lakh, while only 13.3% have a turnover exceeding ₹10 lakh. These findings highlight that the majority of small traders have relatively low annual turnovers, underscoring the small-scale nature of their operations.

Table 5: Level of Digital Literacy

Digital Literacy	Frequency	Percentage
Low	10	16.7%
Moderate	28	46.7%
High	22	36.7%
Total	60	100%

Source: Field data



The table shows that 46.7% of small traders possess a moderate level of digital literacy, representing the largest segment. Approximately 36.7% achieve a high level of digital literacy, and 16.7% fall into the low literacy category. Overall, these findings suggest that the majority of small traders have moderate to high digital literacy, highlighting an increasing familiarity with digital technologies in their business operations.

Table 6: Digital Tools Used by Small Traders:

Digital Tool	Frequency	Percentage
Smartphone	57	95.0%
Digital/UPI Payments	53	88.3%
WhatsApp/Business Messaging	47	78.3%
Social Media	39	65.0%
Digital Accounting/Billing	25	41.7%
Online Marketplace	24	40.0%
Own Website	9	15.0%

The data reveals that smartphones are the most commonly utilized digital tool among small traders, with usage at 95.0%. Digital or UPI payments follow closely, being used by 88.3%, while WhatsApp or Business messaging is employed by 78.3%. Social media platforms are utilized by 65.0% of traders. Meanwhile, 41.7% and 40.0% of traders use digital accounting or billing tools and online marketplaces, respectively. Only a small portion, 15.0%, have their own website. Overall, these findings suggest that small traders primarily rely on digital tools for communication and payment processing, whereas the adoption of more sophisticated online business platforms remains relatively low.



Table 7: Level of E-Commerce Adoption:

Level of Adoption	Frequency	Percentage
No adoption	12	20.0%
Low adoption	13	21.7%
Moderate adoption	23	38.3%
High adoption	12	20.0%
Total	60	100%

Source: Field data

Table 8: Major E-Commerce Channels Used by Traders:

E-Commerce Channel	Frequency	Percentage
WhatsApp/Direct Messaging	38	63.3%
Social Media	31	51.7%
Online Marketplaces	25	41.7%
B2B Online Platforms	11	18.3%
Own Website	9	15.0%

Source: Field data

The data reveals that WhatsApp and direct messaging are the most prevalent e-commerce channels, employed by 63.3% of traders. Social media follows with a usage rate of 51.7%, and online marketplaces are used by 41.7% of traders. B2B online platforms have a smaller share at 18.3%, and only 15.0% of traders utilize their own websites. These findings indicate that small traders predominantly rely on straightforward and readily accessible digital channels



for e-commerce, with limited use of formal online platforms and personal website

Table 9: Major Benefits of E-Commerce:

Perceived Benefit	Frequency	Percentage
Wider customer reach	47	78.3%
Increased sales opportunities	43	71.7%
Convenient digital payments	42	70.0%
Better product promotion	40	66.7%
Improved customer communication	37	61.7%
Access to market information	32	53.3%
Reduced marketing cost	29	48.3%

Source: Field data

The table indicates that a broader customer reach is the most frequently recognized advantage of e-commerce, with 78.3% of traders acknowledging it. Meanwhile, 71.7% report enhanced sales opportunities, and 70.0% highlight the convenience of digital payments as a significant benefit. Additionally, better product promotion and improved customer communication are noted by 66.7% and 61.7% of traders, respectively. Around 53.3% mention gaining access to market information, while 48.3% highlight reduced marketing costs. These findings suggest that traders primarily view e-commerce as a way to expand their customer base, boost sales opportunities, and streamline payment and promotional processes.



Table 10: Major Challenges in E-Commerce Adoption

Major Challenge	Frequency	Percentage
Lack of digital skills	27	45.0%
Cybersecurity/fraud concerns	25	41.7%
Increased competition	24	40.0%
Delivery/logistics problems	23	38.3%
Platform charges/commissions	21	35.0%
Limited financial resources	20	33.3%
Difficulty managing online customers	18	30.0%
Lack of awareness	16	26.7%

Source: Field data

The table shows that a lack of digital skills is the most frequently reported challenge, impacting 45.0% of traders. Concerns about cybersecurity and fraud affect 41.7%, while increased competition is faced by 40.0%. Delivery and logistics issues are experienced by 38.3%, and 35.0% deal with platform charges or commissions. Limited financial resources are a problem for 33.3%, managing online customers poses difficulties for 30.0%, and 26.7% report a lack of awareness. These findings indicate that small traders encounter challenges related to digital skills, online security, competition, logistics, and financial resources when adopting e-commerce.



Table 11: Digital Literacy and E-Commerce Adoption:

Digital Literacy	Low/No Adoption	Moderate/High Adoption	Total
Low	8	2	10
Moderate	14	14	28
High	3	19	22
Total	25	35	60

Source: Field data

$$\chi^2 = 13.96; df = 2; p < 0.01$$

The table reveals a clear relationship between digital literacy and e-commerce adoption among small traders. Among traders with low digital literacy, 8 out of 10 report low or no adoption of e-commerce, while only 2 show moderate or high adoption. In contrast, among traders with high digital literacy, 19 out of 22 report moderate or high adoption, and only 3 report low or no adoption. Traders with moderate digital literacy are evenly distributed between the two adoption categories.

The chi-square test result ($\chi^2 = 13.96$; $df = 2$; $p < 0.01$) indicates a statistically significant association between digital literacy and e-commerce adoption. This suggests that higher levels of digital literacy are closely linked to greater adoption of e-commerce among small traders. Increased digital knowledge and skills appear to play an important role in encouraging the use of e-commerce platforms and digital business practices.



Table 12: Business Size and E-Commerce Adoption:

Annual Turnover	Low/No Adoption	Moderate/High Adoption
Below ₹5 lakh	16	6
₹5–10 lakh	8	10
₹10–25 lakh	3	9
Above ₹25 lakh	1	7
Total	28	32

Source: Field data

$$\chi^2 = 12.05; df = 3; p < 0.01$$

The table illustrates a positive correlation between business size and e-commerce adoption among small traders. For traders with an annual turnover below ₹5 lakh, 16 report low or no e-commerce adoption, while only 6 indicate moderate or high adoption. In contrast, those with higher turnover demonstrate greater adoption levels. In the ₹10–25 lakh turnover range, 9 out of 12 traders report moderate or high adoption, and among those with turnover above ₹25 lakh, 7 out of 8 show moderate or high adoption.

The chi-square test result ($\chi^2 = 12.05; df = 3; p < 0.01$) reveals a statistically significant link between business size and e-commerce adoption. This implies that traders with larger turnovers are more inclined to adopt e-commerce practices. Factors such as greater financial resources, the need for business expansion, and the ability to invest in digital technologies may drive higher e-commerce adoption levels among larger businesses.



Major Findings

1. The study found that most respondents were middle-aged traders, with the largest proportion belonging to the 31–40 and 41–50 years age groups.
2. Male traders constituted a majority of the sample, although women also demonstrated a notable presence in small business activities.
3. Nearly half of the respondents possessed higher educational qualifications, indicating a favourable background for adopting digital technologies and e-commerce practices.
4. Most businesses operated on a small scale, with a majority of traders reporting annual turnovers below ₹5 lakh.
5. The level of digital literacy among traders was generally satisfactory, as a large proportion reported moderate to high digital literacy.
6. Smartphones, digital payment systems, and WhatsApp-based communication emerged as the most commonly used digital tools in business operations.
7. The use of advanced digital business platforms such as online marketplaces, digital accounting systems, and independent websites remained comparatively low.
8. E-commerce adoption among traders was moderate, with a substantial proportion engaging in online business activities through various digital channels.
9. WhatsApp/direct messaging and social media platforms were the most preferred channels for conducting e-commerce transactions and customer interactions.
10. Traders identified wider customer reach, increased sales opportunities, convenient digital payments, better product promotion, and improved customer communication as the major benefits of e-commerce.
11. The major barriers to e-commerce adoption included inadequate digital skills, cybersecurity concerns, growing market competition, logistics difficulties, platform-related costs, and limited financial resources.



12. Statistical analysis revealed a significant relationship between digital literacy and e-commerce adoption, indicating that traders with higher digital literacy were more likely to adopt e-commerce practices.
13. A significant association was also observed between business size and e-commerce adoption, suggesting that traders with larger annual turnovers were more inclined to utilize e-commerce platforms.
14. The findings demonstrate that digital literacy and financial capacity are important determinants of successful e-commerce adoption among small traders.
15. The study concludes that strengthening digital skills, improving cybersecurity awareness, expanding digital infrastructure, facilitating access to finance, and enhancing logistics support can substantially promote the digitalisation of small businesses through e-commerce.

Policy Implications

1. **Digital Skills Training:** Regular training programmes should be organised for small traders on digital payments, online marketing, social media, e-commerce platforms and digital accounting.
2. **Cybersecurity Awareness:** Traders should receive practical training on phishing, fraudulent payment requests, account security, passwords and online financial safety.
3. **Affordable Digital Finance:** Financial institutions should provide suitable credit facilities for traders investing in digital equipment, software, marketing and logistics.
4. **Digital Marketing Support:** Small traders should be supported in product photography, social-media marketing, online branding and customer communication.
5. **Regional-Language Training:** Digital training materials should be made available in Telugu and other regional languages to improve accessibility.
6. **Improved Logistics:** Affordable and reliable delivery facilities should be made available to small traders, particularly those operating in semi-urban and rural areas.



7. **Support for Women Traders:** Women entrepreneurs should receive targeted digital entrepreneurship training and access to finance and online markets.
8. **Platform Awareness:** Traders should be educated about platform commissions, customer reviews, return policies and other conditions before joining online marketplaces.
9. **Digital Business Records:** Small traders should be encouraged to use digital billing, inventory and accounting systems to improve business management.
10. **Institutional Support:** Trade associations, chambers of commerce, financial institutions and government agencies should collaborate to provide digital-business support.
11. **Rural Digital Infrastructure:** Reliable internet connectivity and digital infrastructure should be strengthened in rural and semi-urban markets.
12. **Market Access:** Small traders should be supported in connecting with suitable digital marketplaces and broader consumer networks.

Conclusion:

Adopting e-commerce significantly enhances business operations, extends market reach, boosts customer engagement, and strengthens competitiveness. The research shows that businesses with higher annual revenues are often more engaged with e-commerce compared to smaller businesses, which face more challenges. Limited financial means, insufficient digital skills, a lack of technical knowledge, cybersecurity worries, and low awareness are some of the obstacles hindering e-commerce adoption among smaller enterprises. To tackle these issues, businesses should be encouraged to join digital training and awareness programs that build practical skills in e-commerce and digital marketing. Offering affordable financial assistance and better access to digital infrastructure can further facilitate this adoption. Increased awareness of secure digital transactions and data protection is also crucial. Government bodies and business-support organizations can enhance technical support and help provide access to suitable digital platforms. Broadening e-commerce



adoption in a more inclusive manner can drive business growth, enhance efficiency, open up new market opportunities, and support sustainable growth when backed by adequate financial, technical, and institutional support.

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